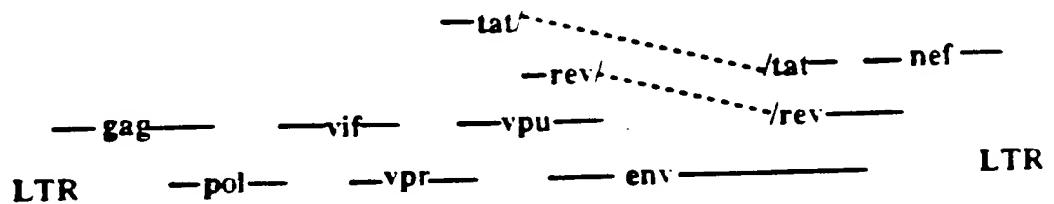


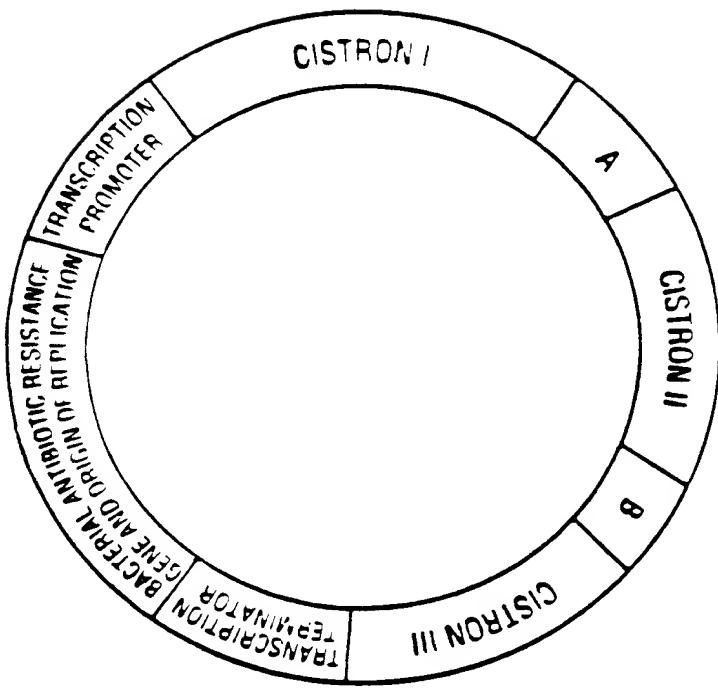
1/27

FIGURE 1



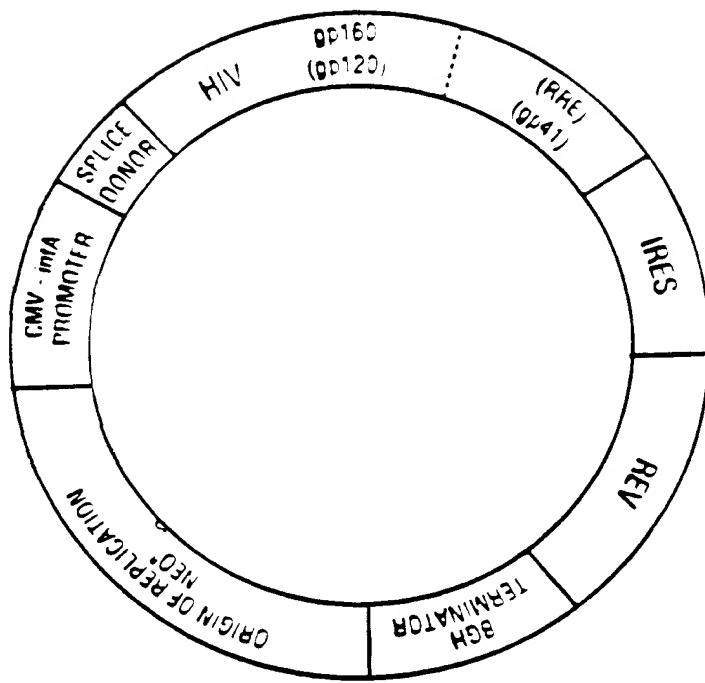
2/27

Figure 2



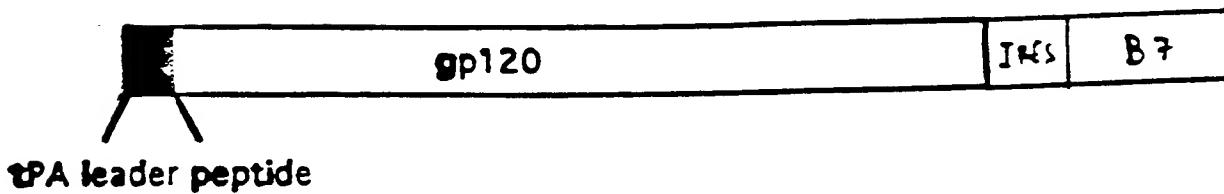
3/27

Figure 3



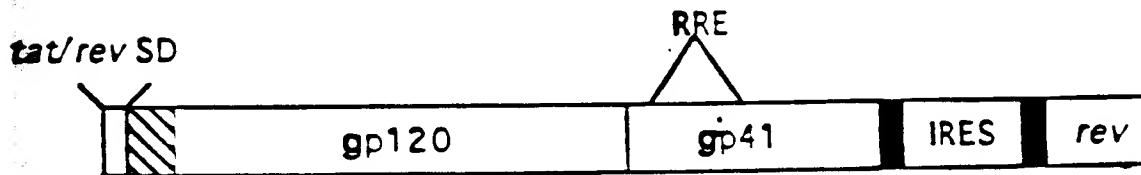
4/27

tPA-gp120 (V1Jns-tPA-gp120)

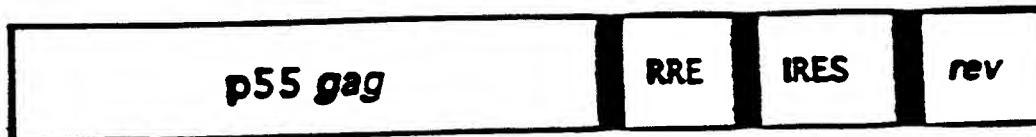


tPA leader peptide

gp160/rev dicistronic construct  
(V1Jns-gp160/IRES/rev/SD)



HIV gag /rev Dicistronic Construct Schematic



Anti-gp41 Immunoblot Analysis of Cells Transfected  
with gp160 Constructs

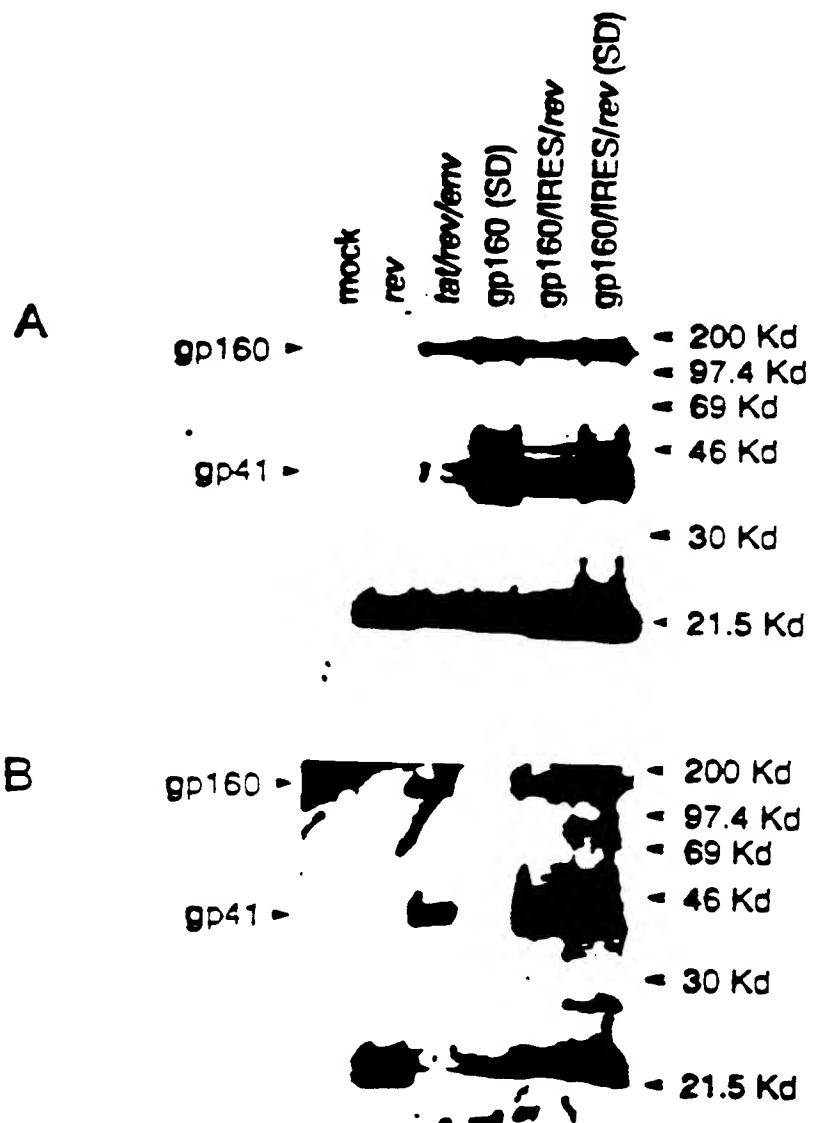


Figure 6: V1J.Sequence, SEQ\_ID:12:

1 TCGCGCGTTT CGGTGATGAC GGTGA~~AA~~ACC TCTGACACAT GCAGGTCCCCG  
 51 GAGACGGTCA CAGCTTGCT GTAA~~G~~GGAT GCCGGGAGCA GACAAGCCCCG  
 101 TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTAA~~A~~TATG  
 151 CGGCATCAGA GCAGATTGTA CTGAGAGTGC ACCATATGCG GTGTGA~~A~~TA  
 201 CCGCACAGAT GCGTAAGGAG AAAATACC~~G~~C ATCAGATTGG CTATTGGCC~~A~~  
 251 TTGCATA~~AC~~GT TGTATCCATA TCATAATATG TACATTATA TTGGCTCATG  
 301 TCCAA~~C~~ATTA CCGCCATGTT GACATTGATT ATTGACTAGT TATTATAGT  
 351 AATCAATTAC GGGCTCATTA GTTCATAGCC CATATATGG~~A~~ GTTCCGCCGTT  
 401 ACATAACTTA CGGTAA~~A~~TGG CCCGCCTGGC TGACCGCCCA ACGA~~CC~~CCCG  
 451 CCCATTGACG TCAATAATGA CGTATGTTCC CATA~~G~~TAACG CCAAA~~T~~GGG~~A~~  
 501 CTTTCCATTG ACGTCAA~~T~~GG GTGGAGTATT TACGGTA~~A~~AC TGCCCC~~A~~TTG  
 551 GCAGTACATC AASTGTATCA TATGCCA~~A~~ST ACGCCCCC~~T~~A TTGAC~~G~~TC~~A~~  
 601 TGACGGTAAA TGGCCCGCCT GGCATTATGC CCA~~G~~TACATG ACCTTATGG~~G~~  
 651 ACTTT~~C~~TAC TTGGCAGTAC ATCTACGTAT TAGTCATCGC TATT~~A~~CGATG  
 701 GTGATGCGGT TTTGGCAGTA CATCAATGGG CGTGGATAGC GGT~~T~~TGACTC  
 751 ACGGGGATT~~T~~ CCAAGTCTCC ACCCCATTGA CGTCAATGGG AGTTTGT~~T~~T  
 801 GGCACCA~~AA~~AA TCAACGGGAC TTTCCAAAAT GTCGTAACAA CTCCGCCCA  
 851 TTGACCGAAA TGGGCGGTAG GCGTGTACGG TGGGAGGTCT ATATAAGCAG  
 901 AGCTCGTTA GTGAACC~~G~~TC AGATCGCCTG GAGACGCCAT CCACGCTGTT  
 951 TTGACCTCCA TAGAAGACAC CGGGACCGAT CCAGCCTCCG CGGCCGGAA  
 1001 CGGTGCATTG GAACGCGGAT TCCCCGTGCC AAGAGTGACG TAAGTACCGC  
 1051 CTATAGAGTC TATAGGCCA CCCCCTTGGC TTCTTATGCA TGCTATACTG  
 1101 TTTTGGCTT GGGGTCTATA CACCCCCGCT TCCTCATGTT ATAGGTGATG  
 1151 GTATAGCTTA GCCTATAGGT GTGGGTTATT GACCATTATT GACCACTCCC  
 1201 CTATTGGTGA CGATACTTTC CATTACTAAT CCATAACATG GCTCTTGCC

Figure 6 (continued, p2/4)

1251 ACAACTCTCT TTATTGGCTA TATGCCAATA CACTGTCCTT CAGAGAGCTA  
 1301 CACGGACTCT GTATTTTAC AGGATGGGT CTCATTTATT ATTAAACAT  
 1351 TCACATATAC AACACCACCG TCCCCAGTGC CCGCAGTTT TATTAAACAT  
 1401 AACGTGGGAT CTCCACGCGA ATCTCGGGTA CGTGTTCGG ACATGGGCTC  
 1451 TTCTCCGGTA GCGGCGGAGC TTCTACATCC GAGCCCTGCT CCCATGCCTC  
 1501 CAGCGACTCA TGGTCGCTCG GCAGCTCCTT GCTCTAACCA GTGGAGGCCA  
 1551 GACTTAGGCA CAGCACGATG CCCACCCACCA CCAGTGTGCC GCACAAAGGCC  
 1601 GTGGCGGTAG GGTATGTGTC TGAAAATGAG CTCGGGGAGC GGGCTTGAC  
 1651 CGCTGACGCA TTTGGAAGAC TTAAGGCAGC GGCAGAAGAA GATGCAGGCC  
 1701 GCTGAGTTGT TGTGTTCTGA TAAGACTCAG AGCTAACTCC CGTTGGGTG  
 1751 CTGTTAACGG TGGAGGGCAG TGTAGTCTGA GCAGTACTCG TTGCTGCCGC  
 1801 GCGCGCCACC AGACATAATA GOTGACAGAC TAACAGACTG TTCTTTCCA  
 1851 TGGGTCTTTT CTGCACTCAC CGTCCTTAG ATCTGCTGTG CCTCTCTAGT  
 1901 GCCAGCCATC TGTTGTTTCG CCCTCCCCCG TGCCTTCCTT GACCCCTGGAA  
 1951 GGTGCCACTC CCACTGTCTT TTCTTAATAA AATGAGGAAA TTGCATGCCA  
 2001 TTGTCTGACT AGGTGTCATT CTATTCTGGG GGGTGGGTG GGGCAGCACA  
 2051 GCAAGGGGAA GGATTGGGAA GACAATAGCA GGCATGCTGG GGATGCGGTG  
 2101 GGCTCTATGG GTACCCAGGT GCTGAAGAAT TGACCCGGTT CCTCCTGGSC  
 2151 CAGAAAGAAG CAGGCACATC CCCTTCTCTG TGACACACCC TGTCCACGCC  
 2201 CCTGGTTCTT AGTTCCAGCC CCACTCATAG GACACTCATA GCTCAGGAGG  
 2251 GCTCCGCCTT CAATCCCACC CGCTAAAGTA CTTGGAGCGG TCTCTCCCTC  
 2301 CCTCATCAGC CCACCAAACC AAACCTAGCC TCCAAGAGTG GGAAGAAATT  
 2351 AAAGCAAGAT AGGCTATTAA GTGCAGAGGG AGAGAAAATG CCTCCAAACAT  
 2401 GTGAGGAAGT AATGAGAGAA ATCATAGAAT TTCTTCCGCT TCCTCGCTCA  
 2451 CTGACTCGCT GCGCTCGGTC GTTCGGCTGC GCGGAGCGGT ATCAGCTCAC

Figure 6 (continued, p3/4)

2501 TCAAAGGC GG TAATA CGGT T ATCCACAGAA TCAGGGATA ACGCAGGAAA  
 2551 GAA CAT GTGA GCA AAA AGGCC AGCAAAAGGC CAGGAACC GT AAAAAAGGCC  
 2601 CGTTGCTGGC GTTTTCCAT AGGCTCCGCC CCCCTGACGA GCATCACAAA  
 2651 AATCGACGCT CAAGTCAGAG GTGGCGAAAC CCGACAGGAC TATAAGATA  
 2701 CCAGGC GTTT CCCCTGGAA GCTCCCTCGT GCGCTCTCCT GTTCCGACCC  
 2751 TGCCGCTTAC CGGATACCTG TCCGCCTTTC TCCCTTCGGG AAGCGTGGCG  
 2801 CTTTCTCAAT GCTCACGCTG TAGGTATCTC AGTTGGTGT AGGTGTTTG  
 2851 CTCCAAAGTG GGCTGTGTGC ACGAACCCCC CGTTCAGCCC GACCGCTGGG  
 2901 CCTTATCCGG TAACTATCGT CTTGAGTCCA ACCCGGTAAG ACACGACTTA  
 2951 TCGCCACTGG CAGCAGCCAC TGGTAACAGG ATTACGAGAG CGAGGTATGT  
 3001 AGGC GG GTGCT ACAGAGTTCT TGAAGTGGTG GCCTAACTAC GGCTACACTA  
 3051 GAAGGACAGT ATTTGGTATC TGC GCTCTGC TGAAGCCAGT TACCTTCGGH  
 3101 AAAAGAGTTG GTAGCTCTTG ATCCGGCAAA CAAACCAACCG CTGGTAGCGG  
 3151 TGGTTTTTTT GTTGCAAGC AGCAGATTAC GCGCAGAAA AAAGGATCTC  
 3201 AAGAAGATCC TTTGATCTT TCTACGGGGT CTGACGCTCA GTGGAAACGAA  
 3251 AACTCACGTT AAGGGATTTT GGT CATGAGA TTATCAAAA GGATCTTCAC  
 3301 CTAGATCCTT TTAAATTAAA AATGAAGTTT TAAATCAATC TAAAGTATAT  
 3351 ATGAGTAAAC TTGGTCTGAC AGTTACCAAT GCTTAATCAG TGAGGCACCT  
 3401 ATCTCAGCGA TCTGTCTATT TCGTTCATCC ATAGTTGCCT GACTCCCCGT  
 3451 CGTGTAGATA ACTACGATAAC GGGAGGGCTT ACCATCTGGC CCCAGTGCTG  
 3501 CAATGATAACC GCGAGACCCA CGCTCACCGG CTCCAGATT ATCAGCAATA  
 3551 AACCA GCCAG CGGGAAAGGGC CGAGCGCAGA AGTGGTCTTG CAACTTTATC  
 3601 CGCCTCCATC CAGTCTATTA ATTGTTGCCG GGAAGCTAGA GTAAGTAGTT  
 3651 CGCCAGTTAA TAGTTGCAC AACGTTGTTG CCATTGCTAC AGGCATCGTG  
 3701 GTGTCAAGCT CGTCGTTGG TATGGCTTCA TTCAGCTCCG GTTCCCAACG

Figure 6 (continued. p4/4)

3751 ATCAAGGCGA GTTACATGAT CCCCCATGTT GTGCAAAAAA GCGGGTTAGCT  
3801 CCTTCGGTCC TCCGATCGTT GTCAGAAGTA AGTTGGCCGC AGTGTATCCTA  
3851 CTCATGGTTA TGGCAGCACT GCATAATTCT CTTACTGTCA TGCCATCGT  
3901 AAGATGCTTT TCTGTGACTG GTGAGTACTC AACCAAGTCA TTCTGAGAAAT  
3951 AGTGTATGCG GCGACCGAGT TGCTCTTGCC CGGCCTCAAT ACGGGATAAT  
4001 ACCGGGCCAC ATAGCAGAAC TTTAAAAGTG CTCATCATTG GAAAACGTTG  
4051 TTCGGGGCGA AAACTCTCAA GGATCTTACC GCTGTTGAGA TCCAGTTGGA  
4101 TGTAACCCAC TCGTGCACCC AACTGATCTT CAGCATCTTT TACCTTCACG  
4151 AGCGTTTCTG GGTGAGCAAA AACAGGAAGG CAAAATGCCG CAIAAAAGGG  
4201 AATAAGGGCG ACACGGAAAT GTTGAATACT CATACTCTTC CTTTTTCAAT  
4251 ATTATTGAAG CATTIATCAG GGTTATTGTC TCATGAGCGG ATACATATT  
4301 GAATGTTATT AGAAAAATAA ACAAAATAGGG GTTCCGGCGCA CATTTCGGCG  
4351 AAAAGTGCCA CCTGACGTCT AAGAAAACCAT TATTATCATG ACATTAAACCT  
4401 ATAAGGATAG GCGTATCACCG AGGCCCTTTC GTC

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Figure 7: V1Jneo Sequence, SEQ. ID:14:

1 TCGCGCGTTT CGGTGATGAC GGTGAAAACC TCTGACACAT GCAGGTCGG  
51 GAGACGGTCA CAGCTTGTCT GTAAGCGGAT GCGGGGAGCA GACAAGCCG  
101 TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTTAACTATG  
151 CGGCATCAGA GCAGATTGTA CTGAGAGTGC ACCATATGCG GTGTGAATA  
201 CCGCACAGAT GCGTAAGGAG AAAATACCGC ATCAGATTGG CTATTGCCA  
251 TTGCATAACGT TGTATCCATA TCATAATATG TACATTIATA TTGGGCTCATG  
301 TCCAACATTA CCGCCATGTT GACATTGATT ATTGACTAGT TATTAAATG  
351 AATCAATTAC GGGGTCACTTA GTTCATAGCC CATAATGGA GTTCCGCGTT  
401 ACATAACTTA CGGTAAATGG CCCGCCTGGC TGACCGCCCA ACGACCCCCG  
451 CCCATTGACG TCAATAATGA CGTATGTTCC CATACTAACG CCATAAGGGA  
501 CTTTCCATTG ACGTCATGTC GTGGAGSTATT TACGCTAAAC TGCCCCATTTG  
551 GCAGTACATC AAGTGTATCA TATGCCAAGT ACGCCCCCTA TTGACGTCAA  
601 TGACGGTAAA TGCCCCGGCT GGCAATTATGC CGAGTACATG ACCTTATGGG  
651 ACTTICCTAC TTGGCAGTAC ATCTACGTAT TAGTCATCGC TATTACCATG  
701 GTGATGCGGT TTTGGCAGTA CATCAATGGG CGTGGATAGC GGTTTGACTC  
751 ACGGGGATTT CCAAGTCTCC ACCCCATTGA CGTCAATGGG AGTTTGTTTT  
801 GGCACCAAAA TCAACGGGAC TTTCCAAAAT GTCGTAAACAA CTCCGCCCCA  
851 TTGACGCAA TGGGCGGTAG CGGTGTACGG TGGGAGGTCT ATATAAGCAG  
901 AGCTCGTTA GTGAACCGTC AGATCGCTG GAGACGCCAT CCACGCTGTT  
951 TTGACCTCCA TAGAAGACAC CGGGACCGAT CCAGCCTCCG CGGCCGGGAA  
1001 CGGTGCATTG GAACGCGGAT TCCCCGTGCC AAGAGTGACG TAAGTACCGC  
1051 CTATAGAGTC TATAGGCCA CCCCCCTGGC TTCTTATGCA TGCTATACTG  
1101 TTTTGCGTT GGGGTCTATA CACCCCCGCT TCCTCATGTT ATAGGTGATG  
1151 GTATAGCTTA GCCTATAGGT GTGGGTTATT GACCATTATT GACCACTCCC

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Figure 7 (continued, p2/4)

1201 CTATTGGTGA CGATACTTC CATTACTAAT CCATAACATG GCTCTTTGCC  
1251 ACAACTCTCT TTATTGGCTA TATGCCAATA CACTGTCCTT CAGAGACTGA  
1301 CACGGACTCT GTATTTTAC AGGATGGGGT CTCATTTATT ATTTACAAAT  
1351 TCACATATAAC AACACCACCG TCCCCAGTGC CCGCAGTTTT TATTAACAT  
1401 AACGTGGGAT CTCCACGCGA ATCTCGGGTA CGTGTCCGG ACATGGGCTC  
1451 TTCTCCGGTA GCGGC GGAGC TTCTACATCC GAGCCCTGCT CCCATGGCTC  
1501 CAGCGACTCA TGGTCGCTCG GCAGCTCCTT GCTCCTAACAA GTGGAGGCCA  
1551 GACTTAGGCA CAGCACGATG CCCACCACCA CCAGTGTGCC GCACAGGGCC  
1601 GTGGCGGTAG GGTATGTGTC TGAAAATGAG CTCGGGGAGC GGGCTTGAC  
1651 CGCTGACGCA TTTGGAAAGAC TTAAGGCAGC GGCAGAAAGAA GATGCAGGCA  
1701 GCTGAGTGT TGTGTTCTGA TAAGAGTCAG AGGTAACTCC CGTTCGGGTG  
1751 CTGTTAACGG TGGAGGGCAG TGTAGTCTGA GCAGTACTCG TTGCTGCCGC  
1801 GCGCGCCACC AGACATAATA GCTGACAGAC TAACAGACTG TTCCCTTCCA  
1851 TGGGTCTTT CTGCAGTCAC CGTCCTTAC ATCTGCTGTG CCTTCTAGTT  
1901 GCCAGCCATC TGTGTTTGC CCCTCCCCCG TGCCTTCCTT GACCCCTGGAA  
1951 GGTGCGACTC CCACTGTCTT TTCCTAATAA AATGAGGAAA TTGCATCGCA  
2001 TTGTCTGAGT AGGTGTCACTT CTATTCTGGG GGGTGGGGTG GGGCAGCACA  
2051 GCAAGGGGGA GGATTGGGAA GACAATAGCA GGCATGCTGG GGATGCGGTG  
2101 GGCTCTATGG GTACCCAGGT GCTGAAGAAT TGACCCGGTT CCTCCTGGGC  
2151 CAGAAAGAAG CAGGCACATC CCCTTCTCTG TGACACACCC TGTCCACGCC  
2201 CCTGGTTCTT AGTTCCAGCC CCACTCATAG GACACTCATA GTCAGGAGG  
2251 GCTCCGCCTT CAATCCCACC CGCTAAAGTA CTTGGAGCGG TCTCTCCCTC  
2301 CCTCATCAGC CCACCAAACC AAACCTAGCC TCCAAGAGTG GGAAGAAATT  
2351 AAAGCAAGAT AGGCTATTAA GTGCAGAGGG AGAGAAAATG CCTCCAACAT  
2401 GTGAGGAAGT AATGAGAGAA ATCATAGAAT TTCTTCCGCT TCCCTGCTCA

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Figure 7 (continued, p3/4)

2451 CTGACTCGCT GCGCTCGGTC GTTGGCTGC GGCGAGCGGT ATCAGCTCAC  
2501 TCAAAGGCGG TAATACGGTT ATCCACAGAA TCAGGGGATA ACGCAGGAAA  
2551 GAACATGTGA GCAAAAGGCC AGCAAAAGGC CAGGAACCGT AAAAAGGCCG  
2601 CGTTGCTGGC GTTTTCCAT AGGCTCCGCC CCCCTGACGA GCATCACAAA  
2651 AATCGACGCT CAAGTCAGAG GTGGCGAAC CCGACAGGAC TATAAAGATA  
2701 CCAGGCCTTT CCCCTGGAA GCTCCCTCGT GCGCTCTCCT GTTCCGACCC  
2751 TGCCGCTTAC CGGATAACCTG TCCGCCCTTC TCCCTTCGGG AAGCGTGCG  
2801 CTTTCTCAAT GCTCACGCTG TAGGTATCTC AGTTGGTGT AGGTGCTTCG  
2851 CTCCAAGCTG GGCTGTGTGC ACGAACCCCC CGTTCAAGCCC GACCGCTGCG  
2901 CCTTATCCGG TAATATCGT CTTGAGTCCA ACCCGGTAAAG ACACGACTTA  
2951 TCGCCACTGG CAGCAGGCCAC TGGTAACAGG ATTAGCAGAG CGAGGTATGT  
3001 AGGCGGTGT ACAGAGTTCT TGAAGTGGTG GCCTAACTAC GGCTACACTA  
3051 GAAAGACAGT ATTTGGTATC TGCGCTCTGC TGAAGCCAGT TACCTTCGGH  
3101 AAAAGAGTTG GTAGCTCTTG ATCCGGAAA CAAACCACCG CTGGTAGCGG  
3151 TGTTTTTTT GTTGCAAGC AGCAGATTAC GCGCAGAAAA AAAGGATCTC  
3201 AAGAAGATCC TTTGATCTT TCTACGGGT CTGACGCTCA GTGGAACGAA  
3251 AACTCACGTT AAGGGATTTC GGTCAATGAGA TTATCAAAAA GGATCTTCAC  
3301 CTAGATCCTT TTAAATTAAA AATGAAGTTT TAAATCAATC TAAAGTATAT  
3351 ATGAGTAAAC TTGGTCTGAC AGTACCAAT GCTTAATCAG TGAGGCACCT  
3401 ATCTCAGCGA TCTGTCTATT TCGTTCATCC ATAGTTGCCT GACTCCGGGG  
3451 GGGGGGGGGCG CTGAGGTCTG CCTCGTGAAG AAGGTGTTGC TGACTCATAAC  
3501 CAGGCCTGAA TCGCCCCATC ATCCAGCCAG AAAAGTGAGGG AGCCACGGTT  
3551 GATGAGAGCT TTGTTGTAGG TGGACCAGTT GGTGATTTG AACTTTGCT  
3601 TTGCCACGGA ACGGTCTGCG TTGTCGGGAA GATGCGTGAT CTGATCCTTC  
3651 AACTCAGCAA AAGTTCGATT TATTCAACAA AGCCGCCGTC CCGTCAGTC

Figure 7 (continued, p4/4)

3701 AGCGTAATGC TCTGCCAGTG TTACAAACCAA TTAACCAATT CTGATTAGAA  
 3751 AAAACTCATCG ACCATCAAAT GAAACTGCAA TTTATTCTATA TCAGGATTAT  
 3801 CAATACCATA TTTTGAAAAA AGCCGTTTCT GTAATGAAGG AGAAALLACTCA  
 3851 CCGAGGCAGT TCCATAGGAT GGCAAGATCC TGGTATCGGT CTGCGATTC  
 3901 GACTCGTCCA ACATCAATAC AACCTATTAA TTTCCCCTCG TCAAAATTA  
 3951 GGTTATCAAG TGAGAAATCA CCATGAGTGA CGACTGAATC CGGTGAGAAT  
 4001 GGCAAAAGCT TATGCATTTC TTTCCAGACT TGTTAACACAG GCCAACCATT  
 4051 ACGCTCGTCA TCAAAATCAC TCGCATCAAC CAAACCGTTA TTCATTGTC  
 4101 ATTGCGCCTG AGCGAGACGA AATACGCGAT CGCTGTTAAA AGGACAAATTA  
 4151 CAAACAGGAA TCGAATGCAA CGGGCGCAGG AACACTGCCA GCGCATCAAC  
 4201 AATATTTCAT CCTGAAATCAG GATATTCTTC TAATACCTGG AATGCTGTT  
 4251 TCCCCGGGGAT CGCAAGTGGTG AGTAACCATG CATCATCAGG AGTACGGATA  
 4301 AAATGCTTGA TGGTGGAAAG AGGCATAAAAT TCCGTCAGCC AGTTTACSTCT  
 4351 GACCATCTCA TCTGTAACAT CATTGGCAAC GCTACCTTTG CCATGTTICA  
 4401 GAAACAAACTC TGGCGCATCG GGTTCCCAT ACAATCGATA GATTGTCGCA  
 4451 CCTGATTGCC CGACATTATC GCGAGCCCAT TTATACCCAT ATAAATCAGC  
 4501 ATCCATGTTG GAATTAAATC GCGGCCTCGA GCAAGACGTT TCCCCGTTGAA  
 4551 TATGGCTCAT AACACCCCTT GTATTACTGT TTATGTAAGC AGACAGTTT  
 4601 ATTGTTCATG ATGATATATT TTTATCTTGT GCAATGTAAC ATCAGAGATT  
 4651 TTGAGACACA ACGTGGCTTT CCCCCCCCCCCC CCATTATTGA AGCATTATC  
 4701 AGGGTTATTG TCTCATGAGC GGATACATAT TTGAATGTAT TTAGAAAAAT  
 4751 AAACAAATAG GGGTTCCGCG CACATTTCCC CGAAAAGTGC CACCTGACGT  
 4801 CTAAGAAACC ATTATTATCA TGACATTAAC CTATAAAAAT AGGCGTATCA  
 4851 CGAGGCCCTT TCGTC

Figure 8: CMVintaBGM Sequence, SEQ. ID:13:

1 ATTGGCTATT GGCCATTGCA TACGTTGTAT CCATATCATA ATATGTACAT  
 51 TTATATTGGC TCATGTCCAA CATTACCGCC ATGTTGACAT TGATTATTGA  
 101 CTAGTTATTA ATAGTAATCA ATTACGGGGT CATTAGTTCA TAGCCCCATAT  
 151 ATGGAGTTCC GCGTTACATA ACTTACGGTA AATGGCCCGC CTGGCTGACC  
 201 GCCCAACGAC CCCCAGCCAT TGACGTCAAT AATGACGTAT GTTCCCCATAS  
 251 TAACGCCAAT AGGGACTTTC CATTGACGTC AATGGGTGGA GTATTTAACGG  
 301 TAAACTGCCC ACTTGGCACT ACATCAAGTG TATCATATGC CAAGTACGCC  
 351 CCCTATTGAC GTCAATGACG GTAAATGGCC CGCCTGSCAT TATGCCCACT  
 401 ACATGACCTT ATGGGACTTT CCTACTTGGC AGTACATCTA CGTATTAGTC  
 451 ATCGCTATTA CCATGGTGAT GCGGTTTTGG CAGTACATCA ATGGGCGTGG  
 501 ATAGCGGTTT GACTCACGGG GATTTCCAAG TCTCCACCCC ATTGACGTCA  
 551 ATGGGAGTTT GTTTGGCAC CAAAATCAAC GGGACTTTCC AAAATGTGCGT  
 601 AACAACTCCG CCCCATTGAC GCAAATGGGC GGTAGGCCTG TACGGTGGGA  
 651 GGTCTATATA AGCAGAGCTC GTTIACTGAA CCGTCAGATC GCCTGGAGAC  
 701 GCCATCCACG CTGTTTTGAC CTCCATAGAA GACACCGGGG CCGATCCAGC  
 751 CTCCGCGGCC GGGAACGGTG CATTGGAACG CGGATTCCCC GTGCCAAGAG  
 801 TGACGTAAAGT ACCGCCTATA GAGTCTATAG GCCCACCCCC TTGGCTTCTT  
 851 ATGCATGCTA TACTGTTTT GGCTTGGGGT CTATACACCC CGCTTCTC  
 901 ATGTTATAGG TGATGGTATA GCTTAGCCTA TAGGTGTGGG TTATTGACCA  
 951 TTATTGACCA CTCCCCTATT GGTGACGATA CTTTCCATTA CTAATCCATA  
 1001 ACATGGCTCT TTGCCACAAAC TCTCTTTATT GGCTATATGC CAATACACTG  
 1051 TCCTTCAGAG ACTGACACGG ACTCTGTATT TTTACAGGAT GGGGTCTCAT  
 1101 TTATTATTA CAAATTACACA TATACAAACAC CACCGTCCCC AGTGGCCCGCA  
 1151 GTTTTATTA AACATAACGT GGGATCTCCA CGCGAATCTC GGGTACGTGT  
 1201 TCCGGACATG GGCTCTTCTC CGGTAGCGGC GGAGCTTCTA CATCCGAGCC

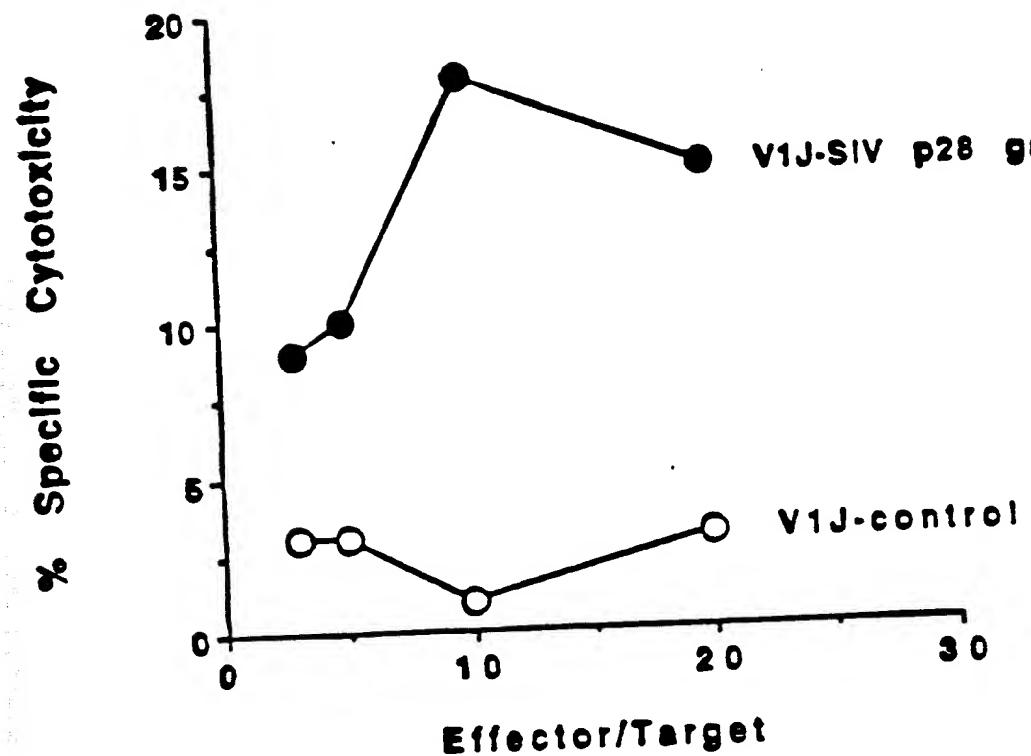
Figure 8 (continued, p2/2)

1251 CTGCTCCCAT GCCTCCAGCG ACTCATGGTC GCTCGGCAGC TCCTTGTGCC  
 1301 TAACAGTGGA GGCCAGACTT AGGCACAGCA CGATGCCAAC CACCAACAGT  
 1351 GTGCCGCACA AGGCCGTGGC GGTAGGGTAT GTGTCTGAAA ATGAGCTCGG  
 1401 GGAGCGGGCT TGCAACCGCTG ACGCATTGG AAGACTTAAG GCAGCGGCAG  
 1451 AAGAAGATGC AGGCAGCTGA GTTGTGTGT TCTGATAAGA GTCAGAGGTA  
 1501 ACTCCCCTTG CGGTGCTGTT AACGGTGGAG GGCAGTGTAG TCTGAGGAGT  
 1551 ACTCGTTGCT GCCGCCGCAG CCACCAGACA TAATAGCTGA CAGACTAAAC  
 1601 GACTGTTGCT TTCCATGGGT CTTTCTGCA GTCACCGTCC TTAGATCTG  
 1651 CTGTGCCTTC TAGTTGCCAG CCATCTGTTG TTTGCCCTC CCCCCGTGCGT  
 1701 TCCCTGACCC TGGAAAGGTGC CACTCCCCACT GTCCTTTGCT AATAAAATGA  
 1751 GGAAATTGCA TCGCATTGTC TGAGTAGGTG TCATTCTATT CTGGGGGGTG  
 1801 GGGTGGGGCA GCACAGCAAG GGGGAGGATT GGGAAAGACAA TAGCAGGCAT  
 1851 GCTGGGGATG CGGTGGGCTC TATGGGTACCC CAGGTGCTGA AGAATTGACG  
 1901 CGGTTGCTCC TGGGCCAGAA AGAAGCAGGC ACATCCCCCTT CTCTGTGACA  
 1951 CACCCCTGTCC ACGCCCCCTGG TTCTTATGTTG CAGCCCCACT CATAGGACAC  
 2001 TCATAGCTCA GGAGGGCTCC GCCTTCAATC CCACCCGCTA AAGTACTTGG  
 2051 AGCGGTCTCT CCCTCCCTCA TCAGCCCCACC AAACCAAACC TAGGCTCCAA  
 2101 GAGTGGGAAG AAATTAAGC AAGATAGGCT ATTAAGTGCA GAGGGAGAGA  
 2151 AAATGCCTCC AACATGTGAG GAAGTAATGA GAGAAATCAT AGAATTC

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Figure 9

**Primary CTL Generation by V1J-SIV p28 gag  
DNA Vaccination**



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Figure 10

**Primary CTL Generation by Vaccinia-SIV gag  
Vaccination**

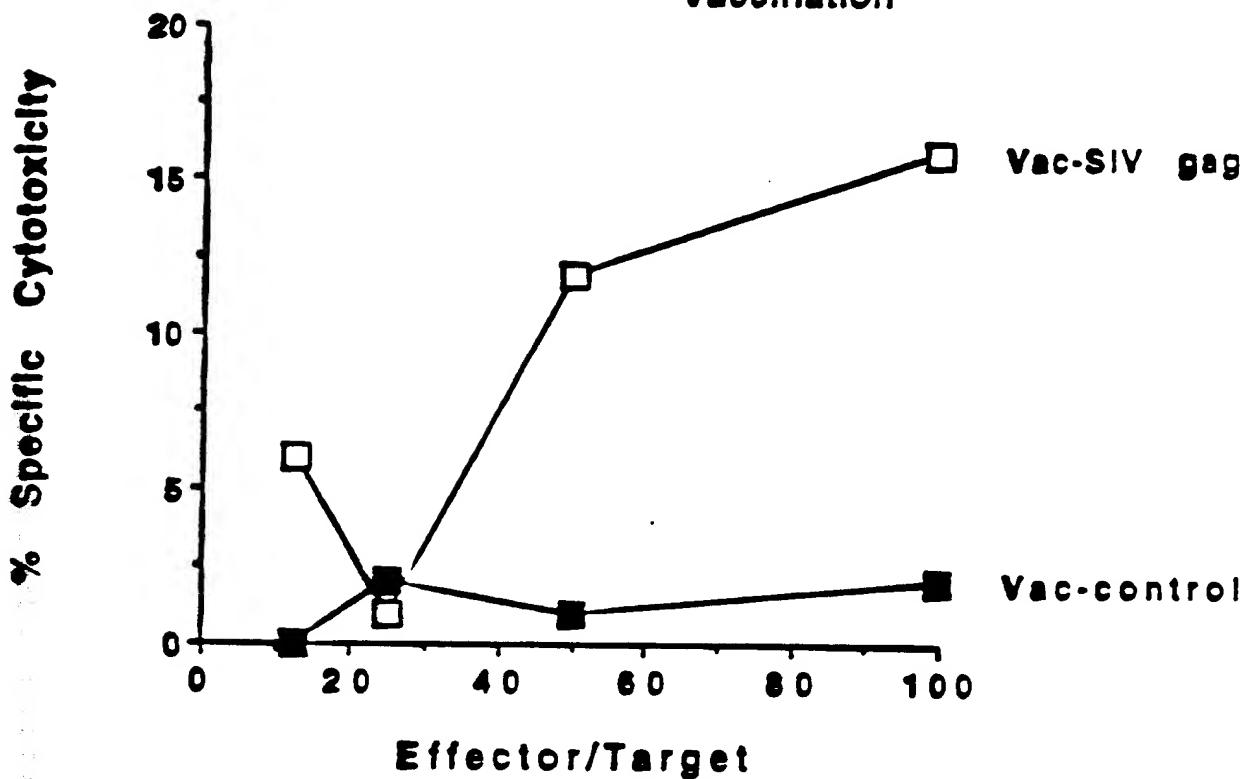


FIGURE 11. VIR SEQUENCE, SEQ.ID:100:

1 GATATTGG CTATTGGCCA  
251 TTGCATAACGT TGTATCCATA TCATAAATATG TACATTTATA TTGGCTCATG  
301 TCCAAACATTA CCGCCATGTT GACATTGATT ATTGACTAGT TATTAATAGT  
351 AATCAATTAC GGGTCATTA GTTCATAGCC CATATATGGA GTTCCGGT  
401 ACATAACTTA CGGTAAATGG CCCGCCCTGGC TGACCGCCCA ACGACCCCCC  
451 CCCATTGACG TCAATAATGA CGTATGTTCC CATACTAACG CCAATAGGG  
501 CTTTCCATTG ACGTCAATGG GTGGACTATT TACGGTAAAC TGCCCACCTG  
551 CCAGTACATC AAGTGTATCA TATGCCAAGT ACGCCCCCTA TTGAGGTCAA  
601 TGACGGTAAAC TGCCCCGCT GCATTATGC CCAGTACATG ACCTTATGG  
651 ACTTTCTAC TTGGCAGTAC ATCTACGTAT TACTCATGGC TATTACCATG  
701 GTGATGCGGT TTTGGCAGTA CATCAATGGG CGTGGATAGC CGTTTGACTC  
751 ACGGGGATTT CCAAGTCTCC ACCCCATTGA CGTCAATGGG AGTTTGTTT  
801 GGCACCAAAA TCAACGGGAC TTTCCAAAAT GTCGTAACAA CTCCGGCCCCA  
851 TTGACCCAAA TGCGGGTAG GCCTGTACGG TGGGAGCTCT ATATAACGAS  
901 AGCTCGTTA GTGACCCGTC AGATCCCTG GAGACGCCAT CCACGGCTGT  
951 TTGACCTCCA TAGAAGACAC CGGGACCGAT CCAGCTCCG CGGGCGGGAA  
1001 CGGTGCATTG GAACGGGGAT TCCCCGTGCC AAGAGTGACG TAAGTACCGC  
1051 CTATAGACTC TATAGGCCCA CCCCCCTGGC TTCTTATGCA TGCTATACTG  
1101 TTTTTGGCTT GGGGTCTATA CACCCCCGGT TCCTCATGTT ATAGGTGATG  
1151 GTATAGCTTA GCCTATAGGT GTGGGTTATT GACCATTATT GACCACTCCC  
1201 CTATTGGTGA CGATACTTTC CATTACTAAT CCATAACATG GCTCTTIGCC  
1251 ACAACTCTCT TTATGGCTA TATGCCAATA CACTGTCCTT CAGAGACTGA  
1301 CACGGACTCT GTATTTTAC AGGATGGGT CTCAATTATT ATTTACAAAT  
1351 TCACATATAC AACACCAACCG TCCCCAGTGC CGCGAGTTT TATTAACAT

Figure 11 (continued, p2/3)

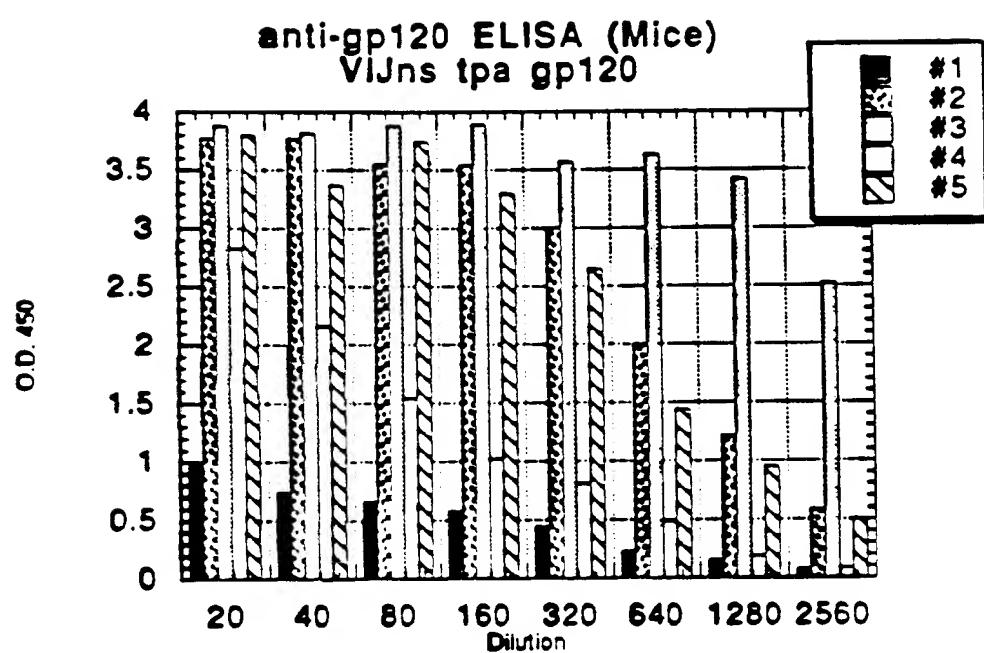
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 1451 TTCTCCGGTA CGGGCGGAGC TTCTACATCC GAGCCCTGCT CCCATGCCCTC  
 1501 CACCGACTCA TGGTCGCTCG CCAGCTCCTT GCTCCTAACCA GTGGAGGCCA  
 1551 GACTTAGGCA CACCACCGATC CCCACCCACCA CCAGTGTGCC GCACAAGGCC  
 1601 GTGGCGGTAG CCTATGTGTC TGAAAATGAG CTGGGGGAGC GGGCTTGAC  
 1651 CGCTGACGCCA TTTGGAAGAC TAAAGGCAGC CCCAGAAGAA GATGCAGGCCA  
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 1801 CGCGGCCACC AGACATAATA GCTGACAGAC TAACAGACTG TTCCCTTTCCA  
 1851 TGGGTCTTTT CTGCACTCAC CGTCCTTAG ATCTGCTGTG CCTTCTAGTT  
 1901 GCCAGCCATC TGTTGTTTGC CCCTCCCCCG TGCCTTCCTT GACCCCTGGAA  
 1951 CGTGCCACTC CCACTGTCTT TTCTAAATAA AATGAGGAAA TTGCACTGCCA  
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 2101 GGCTCTATGG CTAC GGGCGCAGGGCC GTACCCAGGT GCTGAAGAAT  
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 2151 CCTTGCTGGC GTTTTSCAT AGGCTCCGCC CCCCTGACGA CCATCACAAA  
 2201 AATCGACGCT CAAGTCAGAG GTGGCGAAAC CCGACAGGAC TATAAACATA  
 2251 CCAGGCCTT CCCCCCTGGAA GCTCCCTCGT GCGCTCTCCT GTTCCGACCC  
 2301 TCCCGCTTAC CCGATAACCTG TCCGCCTTTC TCCCTTCGGG AAGCGTGGCG  
 2351 CTTTCTCAAT GCTCACCGCTG TAGGTATCTC AGTTGGGTGT AGGTGTTGCG  
 2401 CTCCAAAGCTG CGCTGTGTGC ACCAACCCCC CGTTCAAGCCC GACCGCTGGC  
 2451 CCTTATCCGG TAACTATCGT CTTGAGTCCA ACCCGTAAAC ACACGACTTA  
 2501 TCCGCCACTGG CAGCAGCCAC TGGTAACAGG ATTAGCAGAG CGAGGTATGT  
 2551 AGCCCGTGT ACAGACTTCT TGAAGTGTG CCCTAACTAC GGCTACACTA

Figure 11 (continued, p3/3)

3051 GAAGGACAGT ATTTGGTATC TCGGTCTGCG TGAAACCACT TACCTTCGGA  
 3101 AAAAGAGTTG CTAGCTTCTTG ATCCCGCAAA CAAACCAACCG CTGGTAGCGG  
 3151 TGGTTTTTTT GTTTCGAAGC ACCAGATTAC CGCGAGAAA AAAGGATCTC  
 3201 AAGAAGATCC TTTGATCTTT TCTACGTGATCC CCTAATGCG TCTGCCAGTG  
     TTACAACCAA TTAACCAATT CTGATTAGAA  
 3251 AAACCTCATCG ACCATCAAAT GAAACTGCAA TTTATTCTATA TCAGGATTAT  
 3301 CAATACCATA TTTTTGAAAAA AGCCGTTTCT GTAAATGAAGG AGAAAAACTCA  
 3351 CCCAGGGAGT TCCATAGGAT GGCAAGATCC TGGTATCGGT CTGGGATTCC  
 3401 GACTCGTCCA ACATCAATAAC AACCTATTAA TTTCCCCTCG TCAAAATAAA  
 3451 GCGTATCAAG TGAGAAATCA CCATGAGTGA CGACTGAATC CGGTGAGAAAT  
 3501 GCGAAAAAGT TATGCATTTT TTTCCAGACT TGTTCAACAG GCGAGCCATT  
 3551 ACGCTCGTCA TCAAAATCAAC TCGCATCAAC CAACCGTTA TTCATTCGTS  
 3601 ATTGGCGCTG AGCGAGACGA AATACGGGAT CGCTGTTAAA AGGACAATTAA  
 3651 CAAACAGGAA TCGAAATGCAA CGGGCGCAGG AACACTGCCA GCGCATCAAC  
 3701 AATATTTTCA CCTGAATCAG GATATTCTTC TAATACCTGG AATGCTGTTT  
 3751 TCCCCGGGGAT CGCAGTGGTG AGTAACCATG CATCATCAGG AGTACGGATA  
 3801 AAATGCTTGA TGGTCGGAAG AGCCATAAAAT TCCGTCAGCC AGTTTACTCT  
 3851 GACCATCTCA TCTGTAACAT CATTGGCAAC GCTACCTTGT CCATGTTCA  
 3901 GAAACAAACTC TGGGGCATCG GCCTTCCCAT ACAATCGATA GATTGTCGCA  
 3951 CCTGATTGCC CGACATTATC GCGAGCCCAT TTATACCCAT ATAAATCAGC  
 4001 ATCCATGTTG GAATTAAATC GCGGGCTCGA GCAAGACGTT TCCCGTTGAA  
 4051 TATGGCTCAT AACACCCCTT GTATTACTGT TTATGTAACC AGACAGTTTT  
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 4151 TTGAGACACA ACGTGGCTTT CC

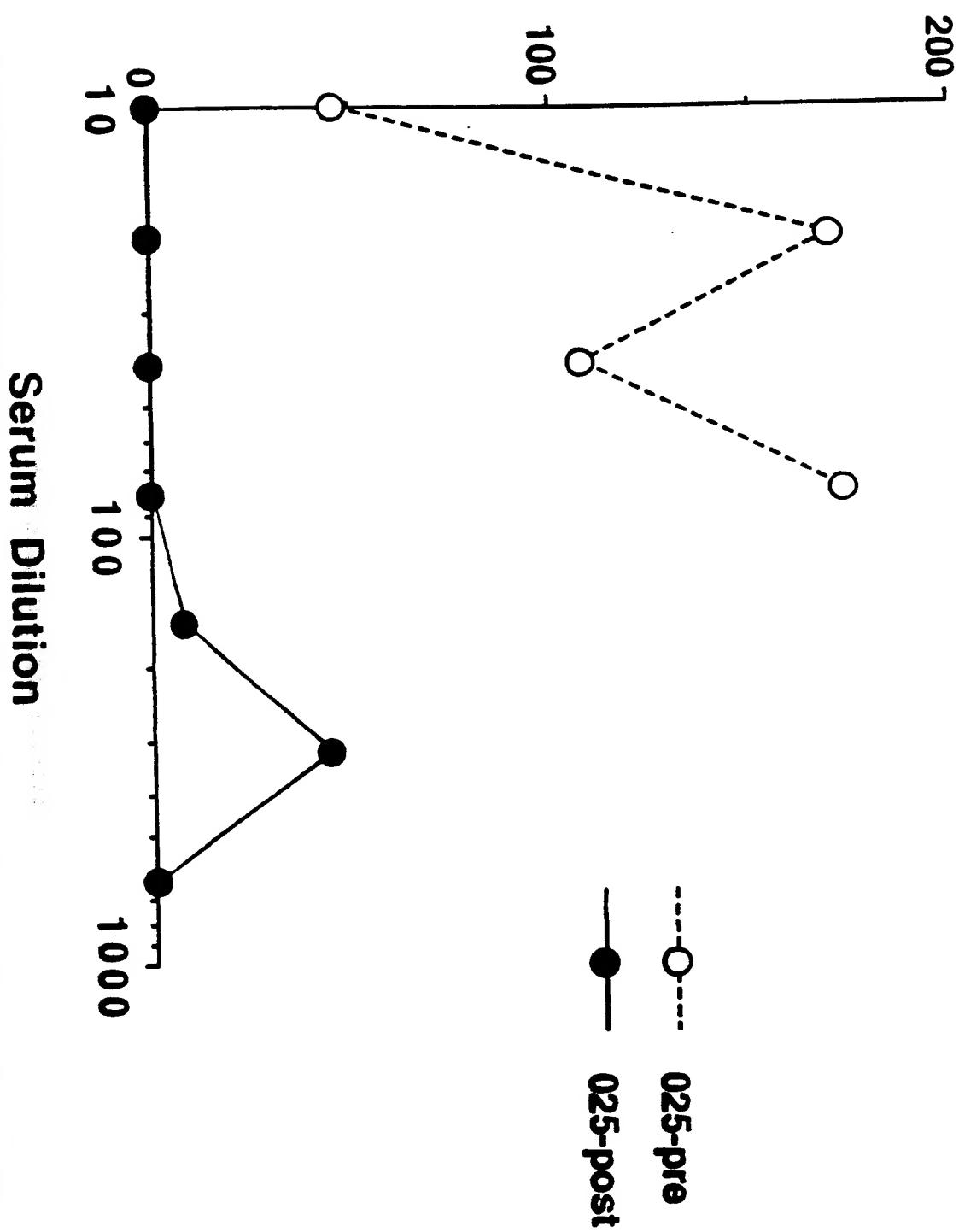
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Figure 12



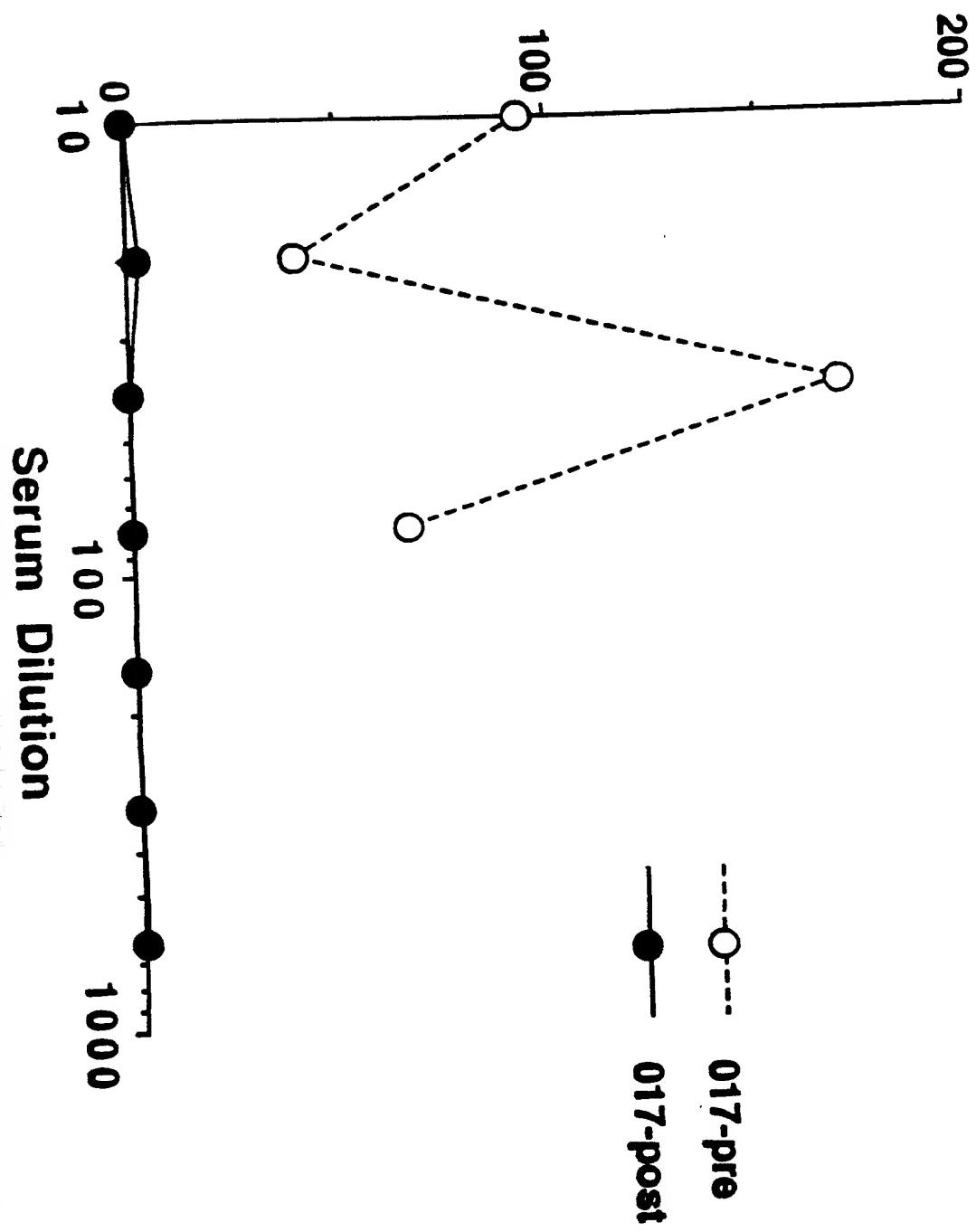
HIV MN Neutralization by Serum from  
tPA-gp120 DNA Immunized African Green Monkeys

day at  
Figure 12A  
p24 gag (ng/ml)



HIV MN Neutralization by Serum from  
tPA-gp120 DNA Immunized African Green Monkeys

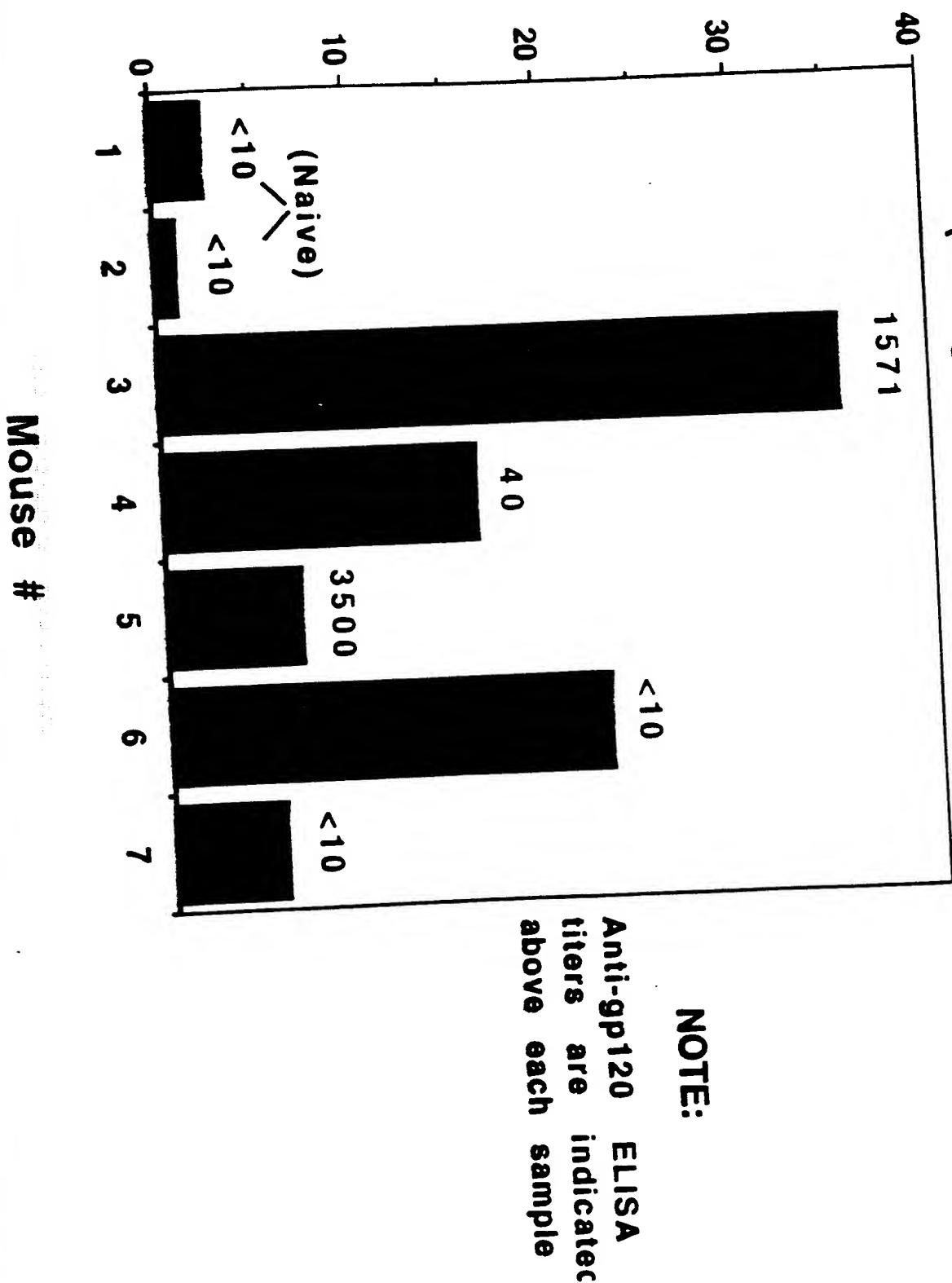
Figure 12B  
p24 gag (ng/ml)



T Cell Proliferation by gp120 DNA Immunized Mice- 6 months post  
(1.6 ug DNA/mouse; 2X)

Stimulation Index

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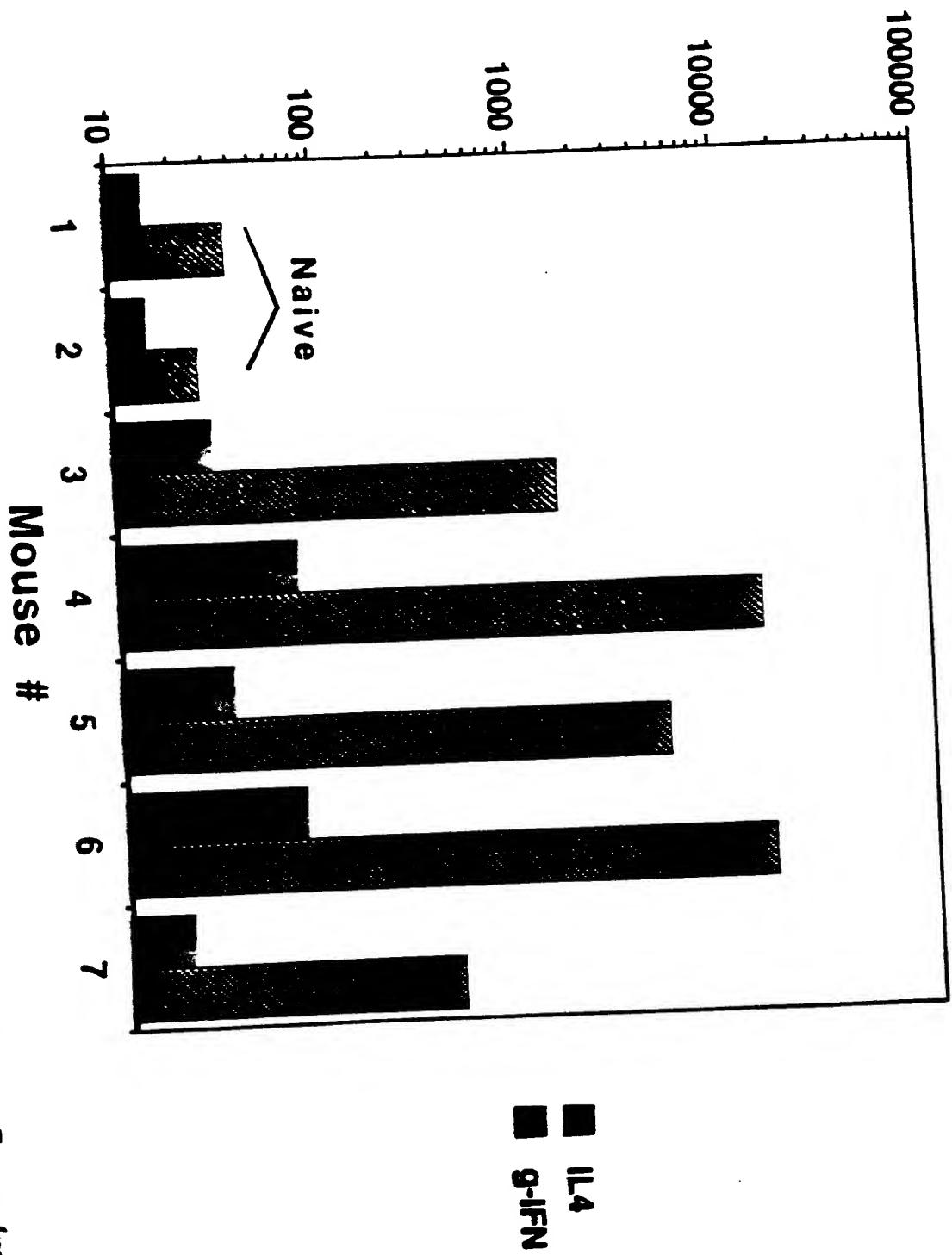
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In Vitro Cytokine Secretion by tPA -gp120 Vaccinees

FIGURE 14

Cytokine Concentration (pg/ml)



-Using supernatants of splenic lymphocyte cultures (using 5 ug/ml rgp120) from gp120 PNV-vaccinated mice (1.6 ug, 2X)

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FIGURE 15

